



STIC Search Report

EIC 1700

STIC Database Tracking Number: 208860

TO: Dawn Garrett
Location: Remsen 10c79
Art Unit : 1774
November 29, 2006
Phone: 571-272-1523
Serial Number: 10 / 532794

From: Jan Delaval
Location: EIC 1700
Remsen 4a30
Phone: 571-272-2504

jan.delaval@uspto.gov

Search Notes

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAVID CAMPBELL Examiner #: 16101 Date: 11/29/2006
 Art Unit: 1711 Phone Number 30 152 Serial Number: 151552 199
 Mail Box and Bldg/Room Location: Room 10079 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Material for organic electroluminescent device

Inventors (please provide full names): (see attached Bib sheet)

Earliest Priority Filing Date: 11/12/2002 - JP 2002-327956 (only limit date to as early as possible)

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

10/20/05

Please search for claims (1) and (11)
 as set forth in claims I attached.

Do not limit search for compounds by
 utility terms.

Thank you

SCIENTIFIC REFERENCE BR
 Sci & Tech Inf. Ctr

NOV 29 2006

Pat. & T.M. Office

STAFF USE ONLY

Searcher: Jan

Searcher Phone #: 22564

Searcher Location: 172106

Date Searcher Picked Up: 11/29/06

Date Completed: 11/29/06

Searcher Prep & Review Time: 15

Clerical Prep Time: +16

Online Time:

Type of Search

NA Sequence (#)

AA Sequence (#)

Structure (#) ✓

Bibliographic

Litigation

Fulltext

Patent Family

Other

Vendors and cost where applicable

STN ✓

Dialog

Questel/Orbit

Dr. Link

Lexis/Nexis

Sequence Systems

WWW/Internet

Other (specify)

=> fil reg

FILE 'REGISTRY' ENTERED AT 16:22:42 ON 29 NOV 2006

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STRUCTURE FILE UPDATES: 27 NOV 2006 HIGHEST RN 914071-04-8

DICTIONARY FILE UPDATES: 27 NOV 2006 HIGHEST RN 914071-04-8

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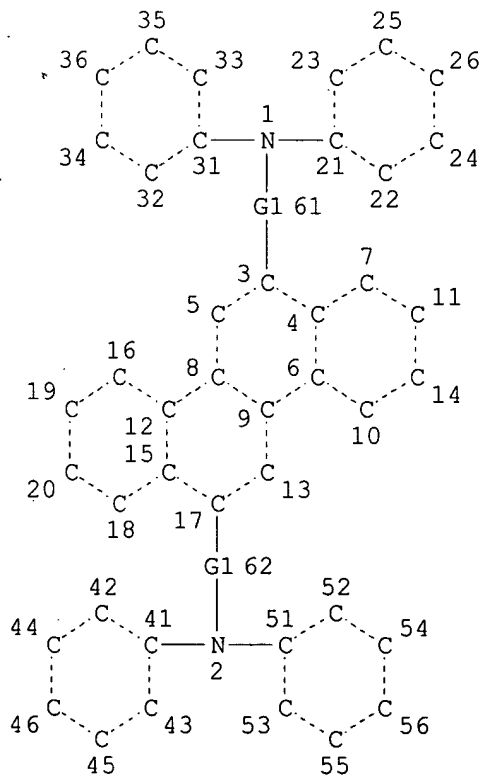
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<http://www.cas.org/ONLINE/UG/regprops.html>

=> d sta que 110

L8 STR



REP G1=(0-1) CY

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 3

NUMBER OF NODES IS 46

STEREO ATTRIBUTES: NONE

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100.0% PROCESSED 7419 ITERATIONS

44 ANSWERS

SEARCH TIME: 00.00.01

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L2 66 S E73,E80
E MASAKAZU/AU
L3 2 S E3
E IDEMITSU/PA,CS
L4 6396 S (IDEMITSU?(L)KOSAN?)/PA,CS
SEL RN L1

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L11 11 S L5 AND L10
L12 33 S L10 NOT L11

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L16 3 S L15 AND (PD<=20031020 OR PRD<=20031020 OR AD<=20031020)

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FILE COVERS 1907 - 29 Nov 2006 VOL 145 ISS 23
FILE LAST UPDATED: 27 Nov 2006 (20061127/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L16 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:430884 HCAPLUS
DN 141:14231
TI Material for organic electroluminescent device and organic electroluminescent device
IN **Funahashi, Masakazu**
PA **Idemitsu Kosan Co., Ltd., Japan**
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004044088	A1	20040527	WO 2003-JP13366	20031020 <--
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	US 2006052641	A1	20060309	US 2005-532794	20050425 <--
PRAI	JP 2002-327956	A	20021112	<--	
	WO 2003-JP13366	W	20031020	<--	
OS	MARPAT 141:14231				
GI					

present application

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention refers to a material for organic electroluminescent devices composed of an aromatic amine derivative I, II, III and IV [A1-9 = H, (un)substituted C1-50 alkyl, C5-50 aryl, C3-50 cycloalkyl, C1-50 alkoxy, C5-50 aryloxy, C5-50 arylamino, C1-20 alkylamino, or halo; m = 0 -5; A1-12 may join together to form rings when m ≥ 2, however A1-4 may not all be H in I, A5-8 may not all be H in II, A9,10 may not both be H in

III, and A11,12 may not both be H in IV; R1-43 = H (un)substituted C1-20 alkyl, C6-20 aryl or cyano; X1-3 = (un)substituted C6-20 arylene], and an organic electroluminescent device comprising the above compound independently or as a component of a mixture for long life, high luminescent efficiency and blue emission with high color purity.

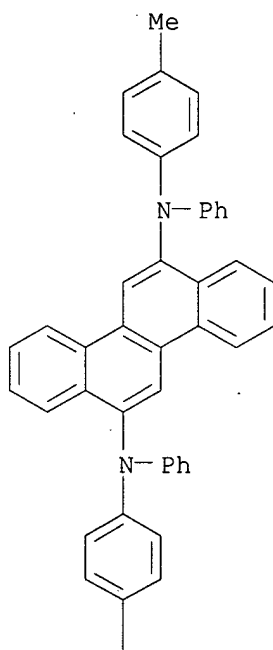
IT 668020-07-3P 693289-37-1P 693289-38-2P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(material for organic electroluminescent device and organic electroluminescent device)

RN 668020-07-3 HCAPLUS

CN 6,12-Chrysenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

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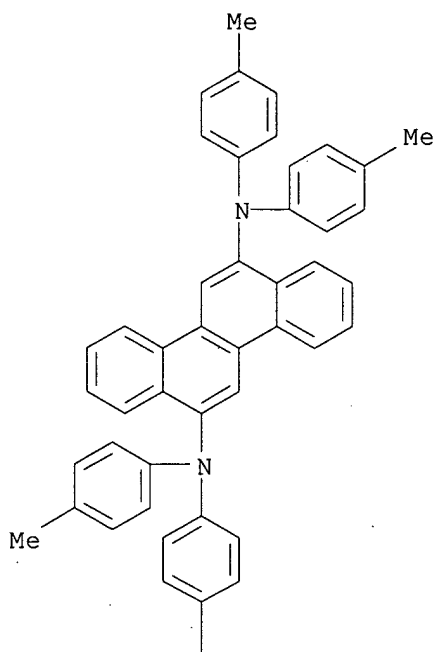
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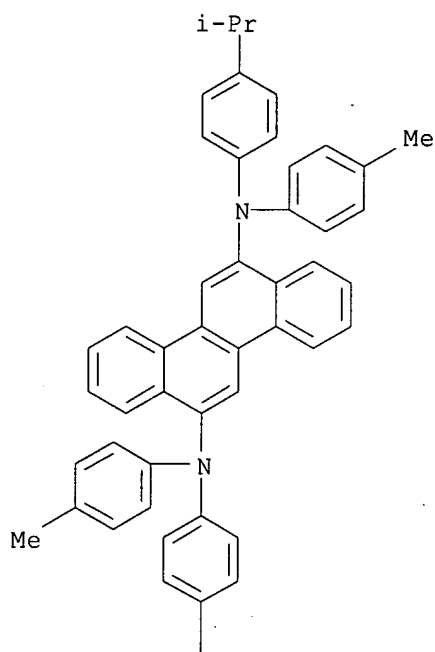


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RN 693289-38-2 HCAPLUS
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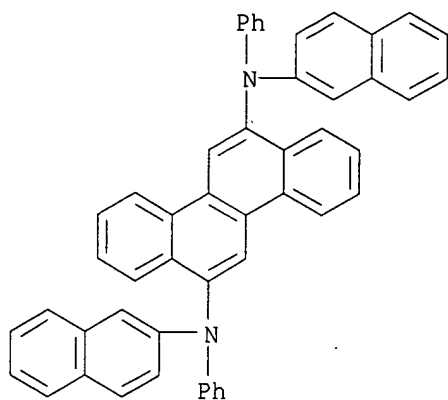
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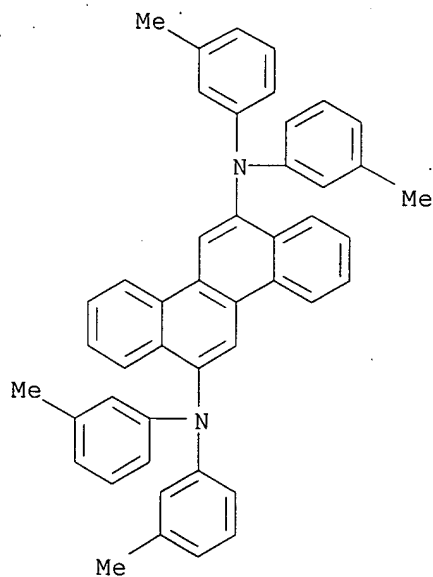


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 693289-45-1P 693289-46-2P
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 (material for organic electroluminescent device and organic
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 CN 6,12-Chrysenediamine, N,N'-di-2-naphthalenyl-N,N'-diphenyl- (9CI) (CA
 INDEX NAME)



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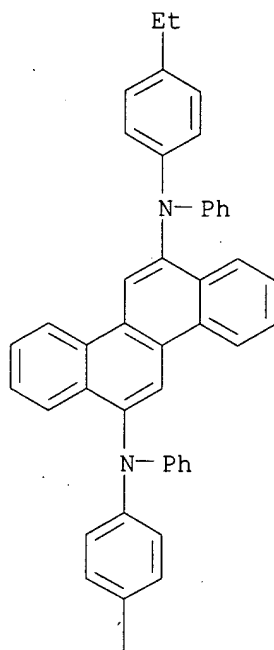
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RN 693289-41-7 HCAPLUS

CN 6,12-Chrysenediamine, N,N'-bis(4-ethylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

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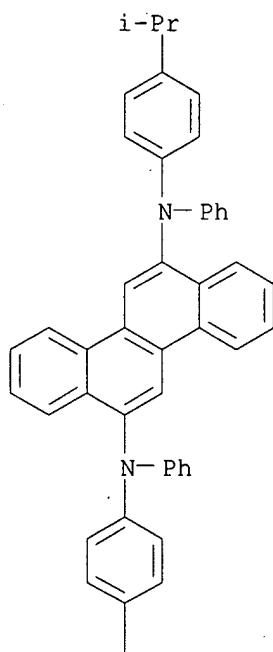


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(9CI) (CA INDEX NAME)

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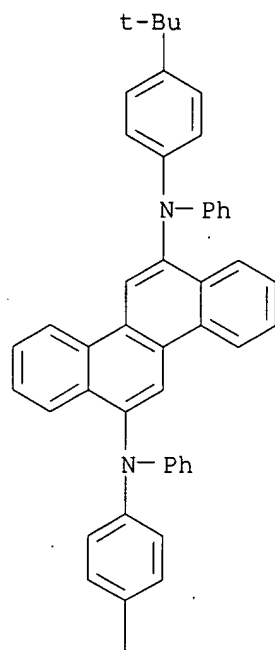


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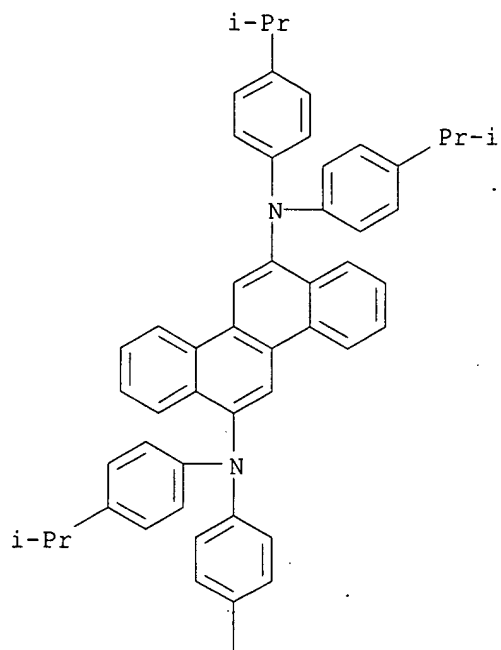


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(CA INDEX NAME)

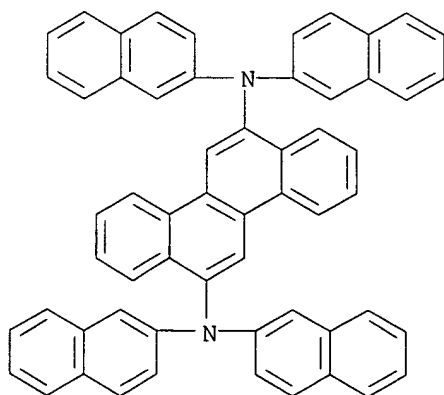
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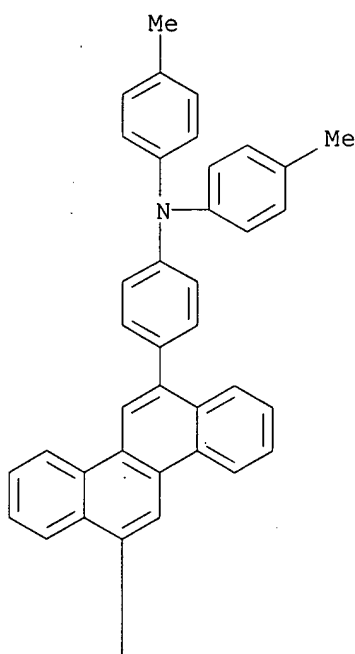


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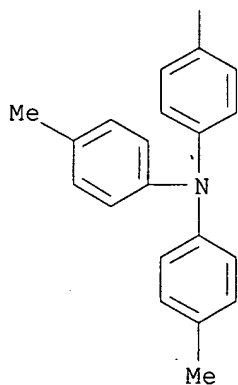


RN 693289-46-2 HCAPLUS
 CN Benzenamine, 4,4'-(6,12-chrysenediyl)bis[N,N-bis(4-methylphenyl)- (9CI)
 (CA INDEX NAME)

PAGE 1-A



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RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Eastman Kodak Co	1992			JP 05-234681 A	HCAPLUS
Eastman Kodak Co	1992			EP 468528 A1	HCAPLUS
Eastman Kodak Co	1992			US 5081569 A	
Eastman Kodak Co	1992			DE 69110567 C	
Idemitsu Kosan Co Ltd	2000			WO 0039247 A1	HCAPLUS
Idemitsu Kosan Co Ltd	2000			EP 1061112 A1	HCAPLUS
Idemitsu Kosan Co Ltd	2000			JP 2001131541 A	HCAPLUS

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Ricoh Co Ltd	1992		US 5153072 A	HCAPLUS
Ricoh Co Ltd	1993		JP 03-285960 A	HCAPLUS
Ricoh Co Ltd	1993		US 5219692 A	HCAPLUS
Ricoh Co Ltd	1993		US 5382692 A	HCAPLUS
Ricoh Co Ltd	1993		US 5488164 A	HCAPLUS
Ricoh Co Ltd	1993		US 5550293 A	HCAPLUS
Ricoh Co Ltd	1994		JP 06-240245 A	HCAPLUS

L16 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:182957 HCAPLUS

DN 140:243296

TI Organic electroluminescent devices and organic luminescent medium

IN Matsuura, Masahide; **Funahashi, Masakazu**; Fukuoka, Kenichi;
Hosokawa, Chishio

PA **Idemitsu Kosan Co., Ltd., Japan**

SO PCT Int. Appl., 77 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2004018588	A1	20040304	WO 2003-JP8463	20030703 <--
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	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,				
	IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP	1541657	A1	20050615	EP 2003-738656	20030703 <--
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	IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
	CN 1668719	A	20050914	CN 2003-817301	20030703 <--
	CN 1842234	A	20061004	CN 2006-10067808	20030703 <--
	US 2005064233	A1	20050324	US 2003-617397	20030711 <--
	US 2006033421	A1	20060216	US 2005-207933	20050822 <--
PRAI	JP 2002-211308	A	20020719	<--	
	CN 2003-817301	A3	20030703	<--	
	WO 2003-JP8463	W	20030703	<--	
	US 2003-617397	A3	20030711	<--	

OS MARPAT 140:243296

AB An organic electroluminescent device comprises a pair of electrodes and an organic luminescent medium layer which is placed between the electrodes and contains (A) a specific arylamine and (B) at least one compound selected from among specific anthracene derivs., spiro fluorene derivs., fused-ring compds., and metal complexes; and an organic luminescent medium containing the components (A) and (B). The organic electroluminescent device exhibits high color purity, excellent heat resistance and a long lifetime and emits blue to yellow light at high efficiency, and the organic luminescent medium is suitable for use in such devices.

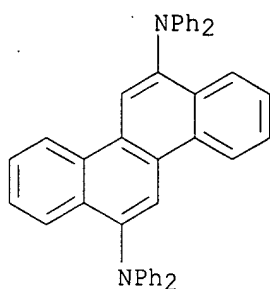
IT 279672-22-9 668020-07-3 668020-88-0

RL: DEV (Device component use); USES (Uses)

(organic electroluminescent devices and organic luminescent medium)

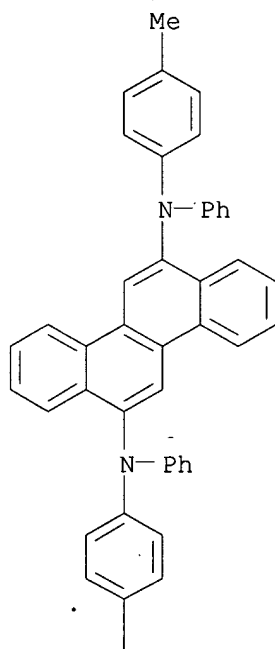
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CN 6,12-Chrysenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 668020-07-3 HCAPLUS
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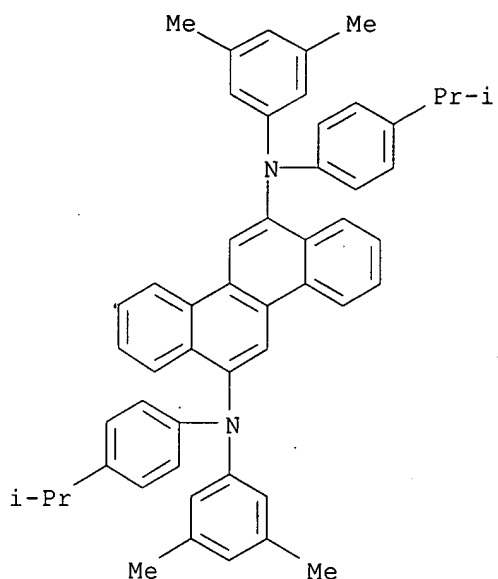
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RN 668020-88-0 HCAPLUS
 CN 6,12-Chrysenediamine, N,N'-bis(3,5-dimethylphenyl)-N,N'-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Aventis Research & Tech	1999			JP 2002503037 A	
Aventis Research & Tech	1999			WO 9940655 A1	HCAPLUS
Idemitsu Kosan Co Ltd	2000			JP 2000273056 A	HCAPLUS
Idemitsu Kosan Co Ltd	2001			WO 01023497 A1	
Idemitsu Kosan Co Ltd	2001			EP 1138745 A1	HCAPLUS
Idemitsu Kosan Co Ltd	2002			WO 0220460 A1	HCAPLUS
Idemitsu Kosan Co Ltd	2002			EP 1219590 A1	HCAPLUS
Idemitsu Kosan Co Ltd	2002			EP 1347671 A1	HCAPLUS
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Idemitsu Kosan Co Ltd	2002			WO 200252904 A1	
Idemitsu Kosan Co Ltd	2002			JP 200280433 A	
Nec Corp	2002			JP 2001176664 A	HCAPLUS
Nec Corp	2002			JP 2001338760 A	HCAPLUS
Nec Corp	2002			US 20020022150 A1	
Nec Corp	2002			US 2002034654 A1	HCAPLUS
Ricoh Co Ltd	1991			JP 03-790 A	HCAPLUS
Taguchi, T	2002			JP 2001279237 A	HCAPLUS
Taguchi, T	2002			US 20020037427 A1	
Tdk Corp	2000			JP 2000344691 A	HCAPLUS
Toray Industries Inc	2002			JP 200250481 A	
Xerox Corp	1999			JP 10-255985 A	HCAPLUS
Xerox Corp	1999			US 5989737 A	HCAPLUS

L16 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:457176 HCAPLUS

DN 133:81385

TI Organic electroluminescent devices

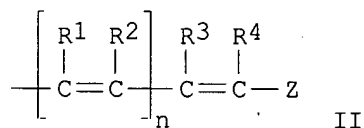
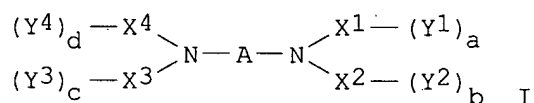
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PA Idemitsu Kosan Co., Ltd., Japan

SO PCT Int. Appl., 167 pp.

CODEN: PIXXD2

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	EP 1666561	A1	20060607	EP 2006-110875	19991228 <--
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	JP 1999-234652	A	19990820	<--	
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	US 2004-814121	B1	20040401		
OS	MARPAT 133:81385				
GI					



AB The devices having a high luminescent efficiency, a long life and a high heat resistance comprise I (A = (substituted) C22-60 arylene; X1-4 = (substituted) C6-30 arylene; Y1-4 = II; a-d = 0-2; R1-4 = H, (substituted) alkyl, (substituted) aryl, cyano; R3 may be bonded to R4 to form a triple bond; Z = (substituted) aryl; n = 0, 1).

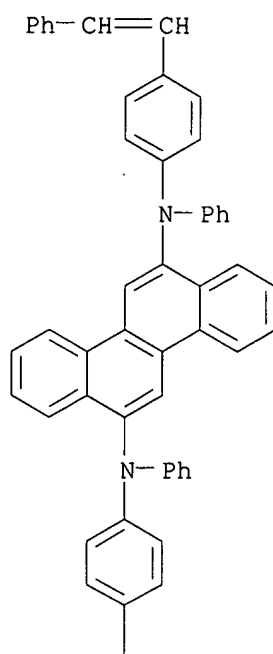
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(organic electroluminescent devices)

RN 279672-21-8 HCAPLUS

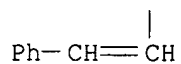
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(9CI) (CA INDEX NAME)

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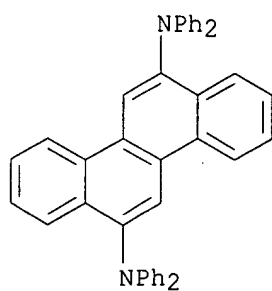


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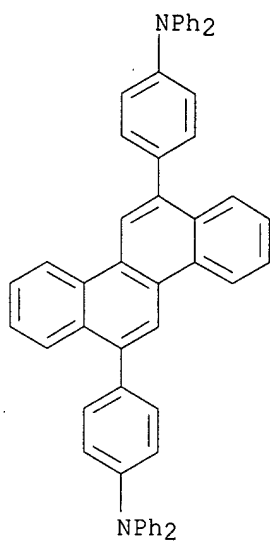
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CN 6,12-Chrysenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



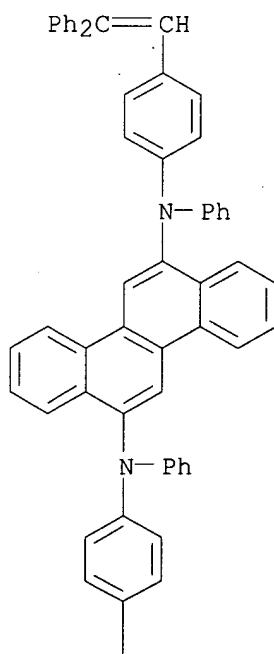
RN 279672-24-1 HCAPLUS

CN Benzenamine, 4,4'-(6,12-chrysenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

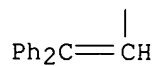


RN 279672-25-2 HCAPLUS
CN 6,12-Chrysenediamine, N,N'-bis[4-(2,2-diphenylethenyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

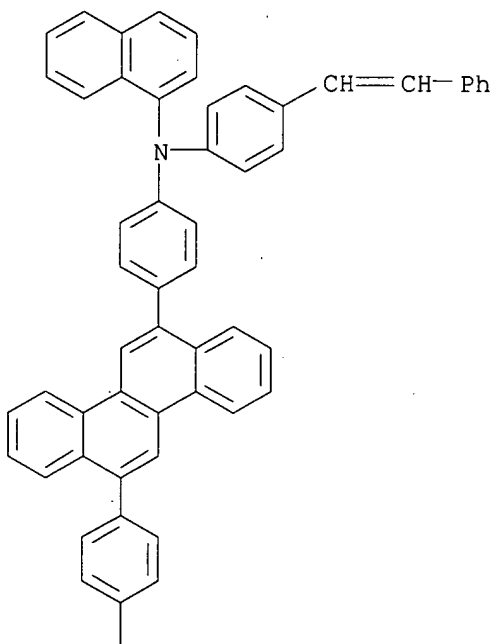


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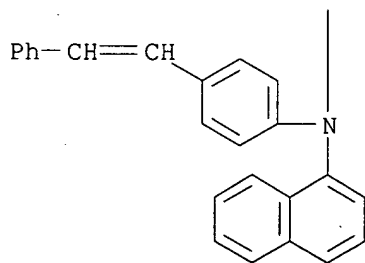


RN 279672-27-4 HCAPLUS
 CN 1-Naphthalenamine, N,N'-(6,12-chrysenediyl)-4,1-phenylene)bis[N-[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

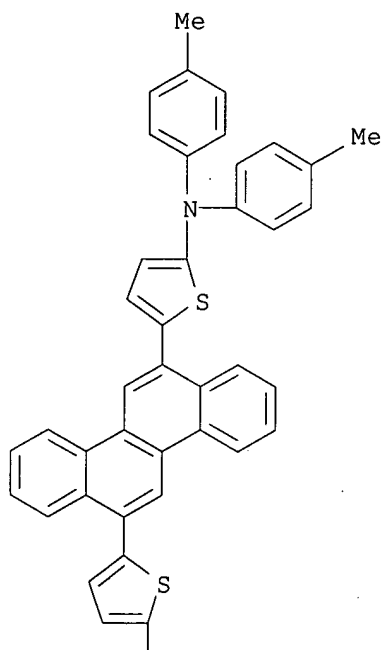


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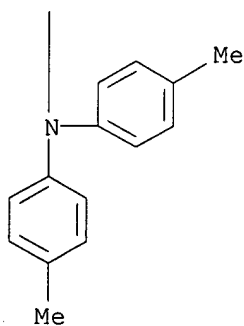


RN 279672-37-6 HCAPLUS
 CN 2-Thiophenamine, 5,5'-(6,12-chrysenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Canon K K				JP 01136161 A	HCAPLUS
Canon K K	1990			US 4931371 A	HCAPLUS
Fiji Photo Film Co Ltd	1998			JP 1017531 A	
Fuji Electric Co Ltd	1997			JP 09304952 A	HCAPLUS
Konica Corporation	1994			JP 61973 A	
Minolta Camera K K				JP 05105651 A	HCAPLUS
Minolta Camera K K	1994			US 5338634 A	HCAPLUS
Mitsubishi Kasei Corp				JP 05100454 A	HCAPLUS
Mitsubishi Kasei Corp				US 5306835 A	HCAPLUS
Mitsubishi Kasei Corp	1995			US 5389480 A	HCAPLUS

Nec Corporation	1999		JP 1174079 A	
Toyo Ink Mfg Co Ltd			JP 07145372 A	HCAPLUS
Toyo Ink Mfg Co Ltd	1997		US 5698740 A	HCAPLUS
Toyo Ink Mfg Co Ltd	1999		JP 11102784 A	HCAPLUS
Toyo Ink Mfg Co Ltd	1999		JP 11135261 A	HCAPLUS
Toyo Ink Mfg Co Ltd	1999		JP 118068 A	

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CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 28 Nov 2006 (20061128/PD)

FILE LAST UPDATED: 28 Nov 2006 (20061128/ED)

HIGHEST GRANTED PATENT NUMBER: US7143445

HIGHEST APPLICATION PUBLICATION NUMBER: US2006265800

CA INDEXING IS CURRENT THROUGH 28 Nov 2006 (20061128/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 28 Nov 2006 (20061128/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2006

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L18 ANSWER 1 OF 7 USPATFULL on STN

AN 2006:222541 USPATFULL

TI Organic electrolumescence device

IN Hosokawa, Chishio, Chiba-ken, JAPAN

Funahashi, Masakazu, Chiba-ken, JAPAN

Kawamura, Hisayuki, Chiba-ken, JAPAN

Arai, Hiromasa, Chiba-ken, JAPAN

Koga, Hidetoshi, Chiba-ken, JAPAN

Ikeda, Hidetsugu, Chiba-ken, JAPAN

PA Idemitsu Kosan Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)

PI US 2006189828 A1 20060824

AI US 2006-344604 A1 20060201 (11)

RLI Continuation of Ser. No. US 2004-814121, filed on 1 Apr 2004, ABANDONED
Division of Ser. No. US 2000-623057, filed on 25 Aug 2000, GRANTED, Pat.
No. US 6743948 A 371 of International Ser. No. WO 1999-JP7390, filed on
28 Dec 1999

PRAI JP 1998-373921 19981228 <--

JP 1999-140103 19990520 <--

JP 1999-223056 19990805 <--

JP 1999-234652 19990820 <--

JP 1999-347848 19991207 <--

DT Utility

FS APPLICATION

LREP OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET,
ALEXANDRIA, VA, 22314, US

CLMN Number of Claims: 9

ECL Exemplary Claim: 1

DRWN 3 Drawing Page(s)

LN.CNT 3049

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Materials for organic electroluminescence devices are represented by
following general formula [1]: ##STR1##

wherein A represents a chrysene group, X.sup.1 to X.sup.4 each independently
represent a substituted or unsubstituted arylene group having 6 to 30
carbon atoms, X.sup.1 and X.sup.2 may be bonded to each other, X.sup.3

and X.⁴ may be bonded to each other, Y.¹ to Y.⁴ each independently represent an organic group represented by general formula [2], a to d each represent an integer of 0 to 2 and, a+b+c+d≥0; general formula [2] being: ##STR2##

wherein R.¹ to R.⁴ each independently represent hydrogen atom, a substituted or unsubstituted alkyl group having 1 to 20 carbon atoms, a substituted or unsubstituted aryl group having 6 to 20 carbon atoms, cyano group or form a triple bond by a linkage of R.¹ and R.² or R.³ and R.⁴, Z represents a substituted or unsubstituted aryl group having 6 to 20 carbon atoms and n represents 0 or 1.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 279672-21-8 279672-22-9 279672-24-1

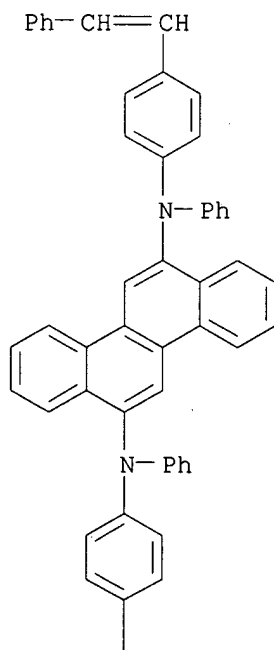
279672-25-2 279672-27-4 279672-37-6

(organic electroluminescent devices)

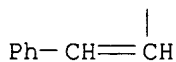
RN 279672-21-8 USPATFULL

CN 6,12-Chrysenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]-
(9CI) (CA INDEX NAME)

PAGE 1-A

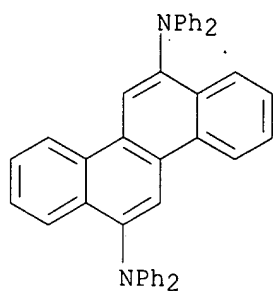


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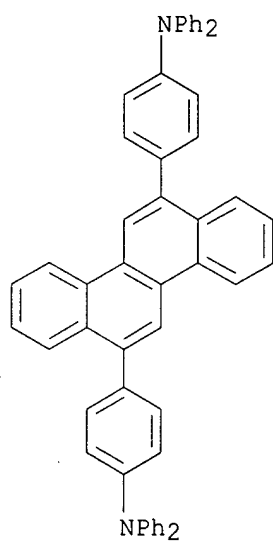
RN 279672-22-9 USPATFULL

CN 6,12-Chrysenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 279672-24-1 USPATFULL

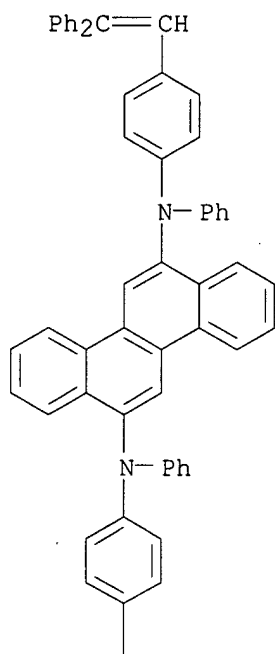
CN Benzenamine, 4,4'-(6,12-chrysenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



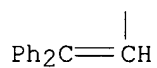
RN 279672-25-2 USPATFULL

CN 6,12-Chrysenediamine, N,N'-bis[4-(2,2-diphenylethenyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



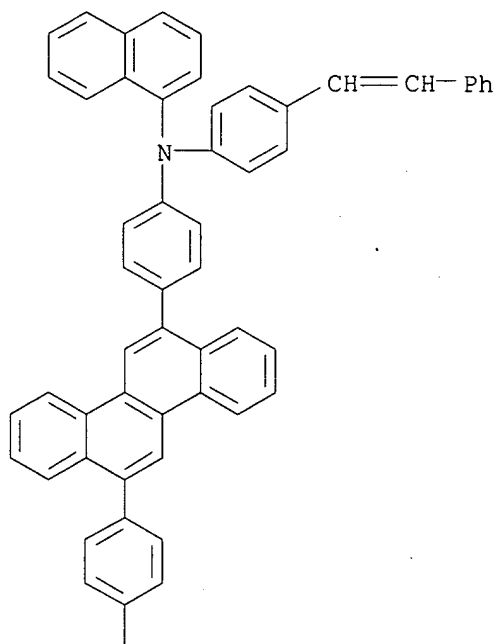
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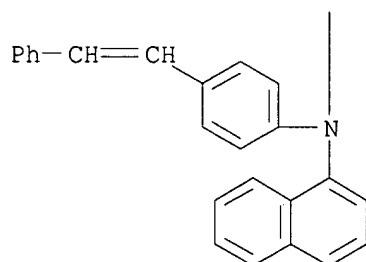
RN 279672-27-4 USPATFULL

CN 1-Naphthalenamine, N,N'-(6,12-chrysenediyl-di-4,1-phenylene)bis[N-[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

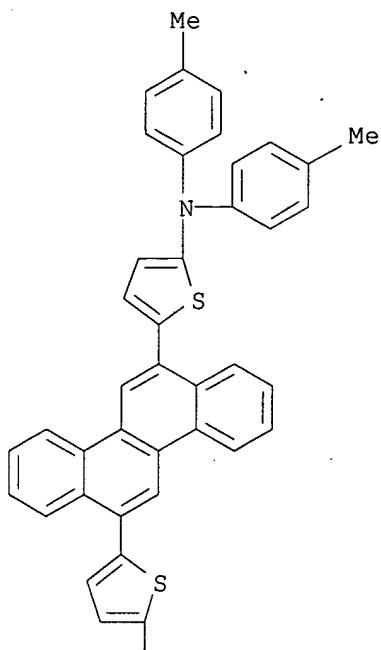


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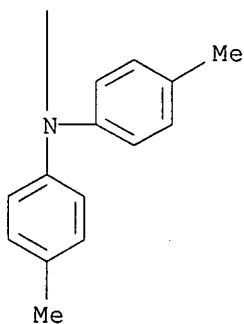


RN 279672-37-6 USPATFULL
CN 2-Thiophenamine, 5,5'-(6,12-chrysenediyl)bis[N,N-bis(4-methylphenyl)-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L18 ANSWER 2 OF 7 USPATFULL on STN
 AN 2006:61471 USPATFULL
 TI Material for organic electroluminescent device and organic
 electroluminescent device using same
 IN Funahashi, Masakazu, Chiba, JAPAN
 PI US 2006052641 A1 20060309
 AI US 2003-532794 A1 20031020 (10) <--
 WO 2003-JP13366 20031020 <--
 20050425 PCT 371 date
 PRAI JP 2002-327956 20021112 <--
 DT Utility
 FS APPLICATION
 LREP STEPTOE & JOHNSON LLP, 1330 CONNECTICUT AVENUE, N.W., WASHINGTON, DC,

20036, US

CLMN Number of Claims: 7

ECL Exemplary Claim: 1

DRWN 11 Drawing Page(s)

LN.CNT 797

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides an organic electroluminescent device material composed of an aromatic amine derivative having a specific structure in which amine moieties are linked to a chrysene moiety; and an organic electroluminescent device having a cathode, an anode, and one or more organic thin-film layers interposed between the cathode and the anode, the organic thin-film layers including at least a light-emitting layer, wherein at least one of the organic thin-film layers contains the organic electroluminescent device material in the form of single component material or a mixture of a plurality of components. The organic electroluminescent device material and the organic electroluminescent device containing the material attains a long service life and can emit blue light of high color purity at high emission efficiency.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

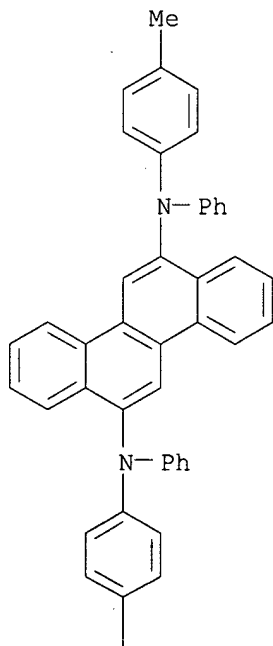
IT 668020-07-3P 693289-37-1P 693289-38-2P

(material for organic electroluminescent device and organic electroluminescent device)

RN 668020-07-3 USPATFULL

CN 6,12-Chrysenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

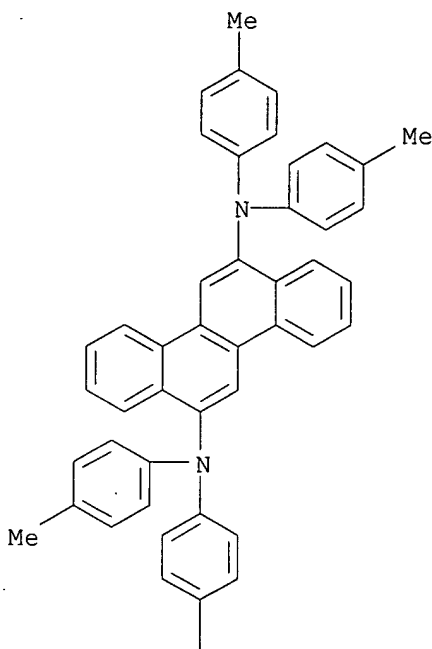


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RN 693289-37-1 USPATFULL
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PAGE 1-A

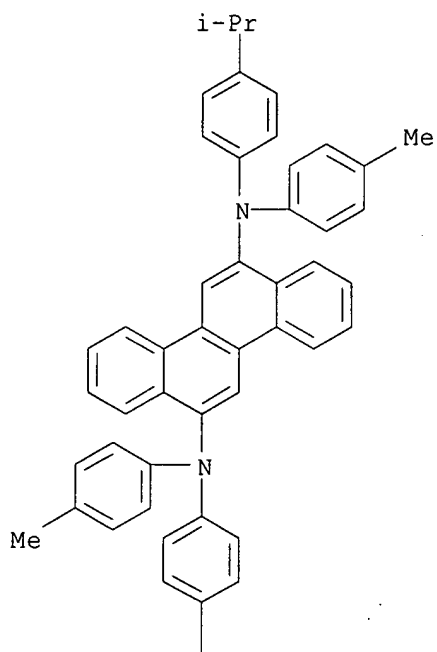


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RN 693289-38-2 USPATFULL
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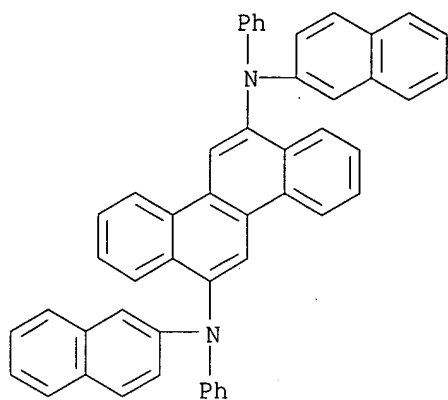
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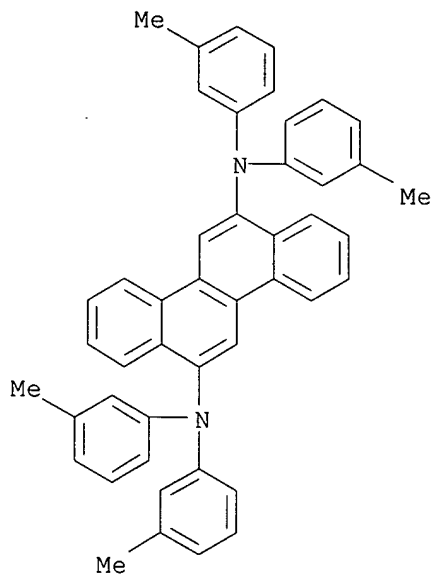


IT 693289-39-3P 693289-40-6P 693289-41-7P
 693289-42-8P 693289-43-9P 693289-44-0P
 693289-45-1P 693289-46-2P
 (material for organic electroluminescent device and organic
 electroluminescent device)
 RN 693289-39-3 USPATFULL
 CN 6,12-Chrysenediamine, N,N'-di-2-naphthalenyl-N,N'-diphenyl- (9CI) (CA
 INDEX NAME)



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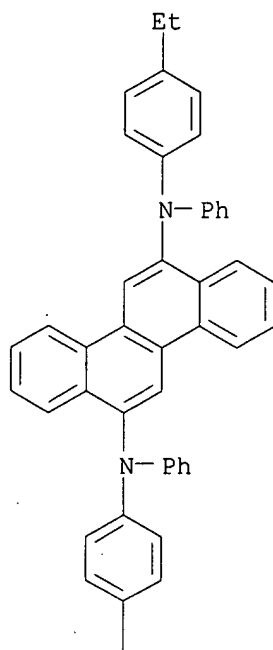
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RN 693289-41-7 USPATFULL

CN 6,12-Chrysenediamine, N,N'-bis(4-ethylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

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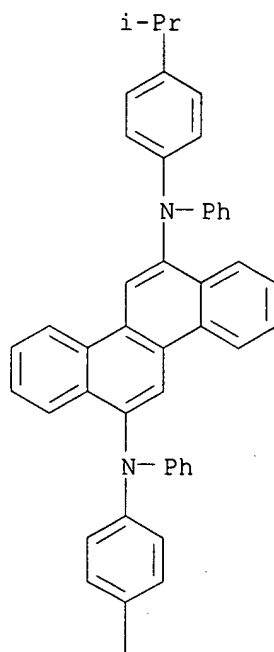


PAGE 2-A

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RN 693289-42-8 USPATFULL
CN 6,12-Chrysenediamine, N,N'-bis[4-(1-methylethyl)phenyl]-N,N'-diphenyl-
(9CI) (CA INDEX NAME)

PAGE 1-A

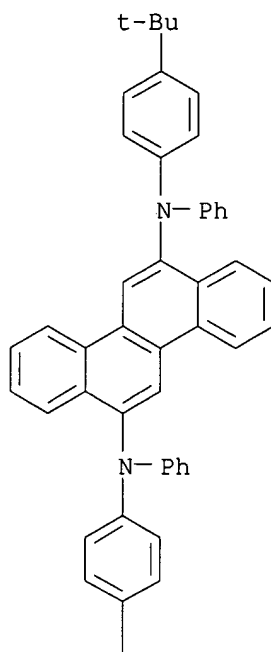


PAGE 2-A



RN 693289-43-9 USPATFULL
CN 6,12-Chrysenediamine, N,N'-bis[4-(1,1-dimethylethyl)phenyl]-N,N'-diphenyl-
(9CI) (CA INDEX NAME)

PAGE 1-A

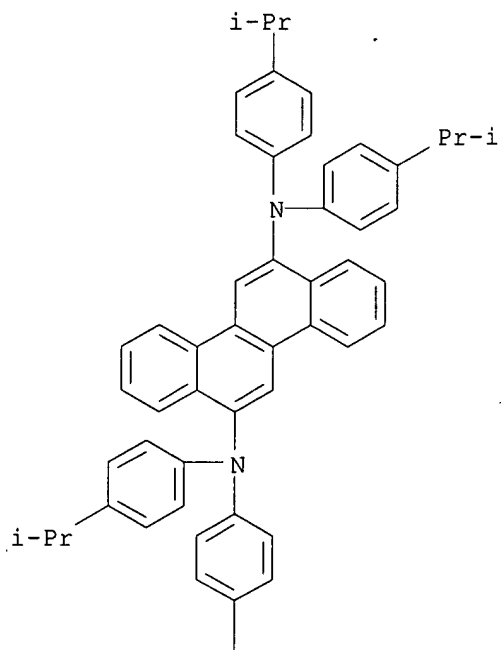


PAGE 2-A



RN 693289-44-0 USPATFULL
CN 6,12-Chrysenediamine, N,N,N',N'-tetrakis[4-(1-methylethyl)phenyl]- (9CI)
(CA INDEX NAME)

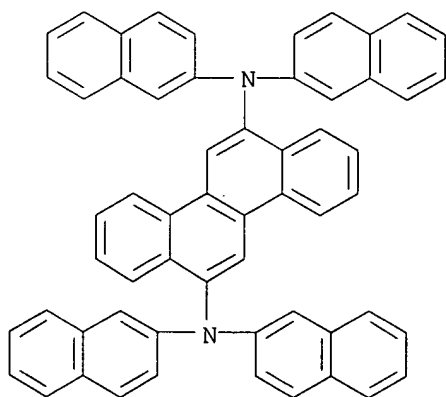
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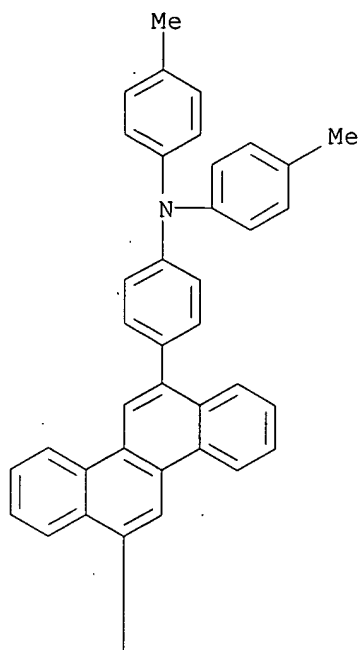


RN 693289-45-1 USPATFULL
 CN 6,12-Chrysenediamine, N,N,N',N'-tetra-2-naphthalenyl- (9CI) (CA INDEX NAME)

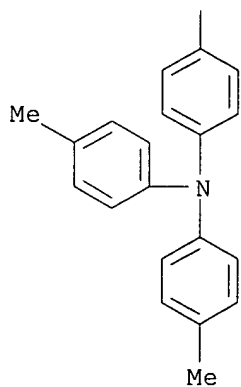


RN 693289-46-2 USPATFULL
 CN Benzenamine, 4,4'-(6,12-chrysenediyl)bis[N,N-bis(4-methylphenyl)- (9CI)
 (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L18 ANSWER 3 OF 7 USPATFULL on STN
 AN 2006:38775 USPATFULL
 TI Organic electroluminescence device and organic light emitting medium
 IN Matsuura, Masahide, Chiba, JAPAN
 Funahashi, Masakazu, Chiba, JAPAN
 Fukuoka, Kenichi, Chiba, JAPAN
 Hosokawa, Chishio, Chiba, JAPAN
 PA Idemitsu Kosan Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)
 PI US 2006033421 A1 20060216
 AI US 2005-207933 A1 20050822 (11)

RLI Division of Ser. No. US 2003-617397, filed on 11 Jul 2003, PENDING
PRAI JP 2002-211308 20020719 <--
DT Utility
FS APPLICATION
LREP OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET,
ALEXANDRIA, VA, 22314, US
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1381

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An organic electroluminescence device having a layer of an organic light emitting medium which comprises (A) a specific arylamine compound and (B) at least one compound selected from specific anthracene derivatives, spirofluorene derivatives, compounds having condensed rings and metal complex compounds and is disposed between a pair of electrodes and an organic light emitting medium comprising the above components (A) and (B) are provided. The organic electroluminescence device exhibits a high purity of color, has excellent heat resistance and a long life and efficiently emits bluish to yellowish light. The organic light emitting medium can be advantageously used for the organic electroluminescence device.

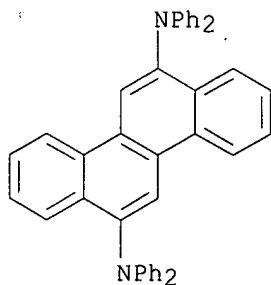
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 279672-22-9 668020-07-3 668020-88-0

(organic electroluminescent devices and organic luminescent medium)

RN 279672-22-9 USPATFULL

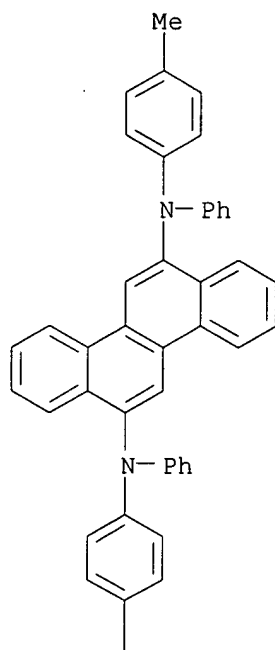
CN 6,12-Chrysenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 668020-07-3 USPATFULL

CN 6,12-Chrysenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

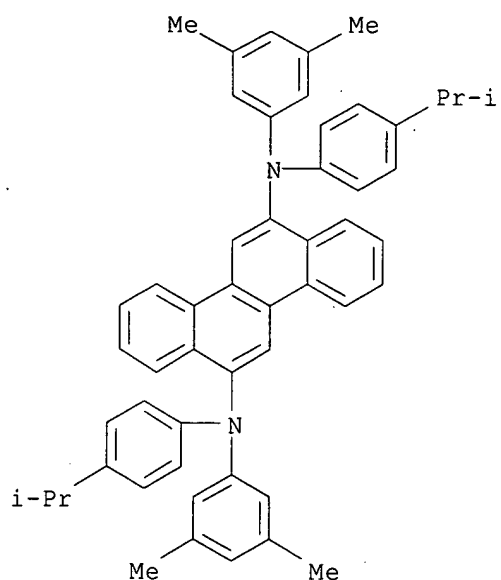
PAGE 1-A



PAGE 2-A



RN 668020-88-0 USPATFULL
CN 6,12-Chrysenediamine, N,N'-bis(3,5-dimethylphenyl)-N,N'-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



L18 ANSWER 4 OF 7 USPATFULL on STN
 AN 2005:74938 USPATFULL
 TI Organic electroluminescence device and organic light emitting medium
 IN Matsuura, Masahide, Chiba, JAPAN
 Funahashi, Masakazu, Chiba, JAPAN
 Fukuoka, Kenichi, Chiba, JAPAN
 Hosokawa, Chishio, Chiba, JAPAN
 PA Idemitsu Kosan Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)
 PI US 2005064233 A1 20050324
 AI US 2003-617397 A1 20030711 (10) <--
 PRAI JP 2002-211308 20020719 <--
 DT Utility
 FS APPLICATION
 LREP OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET,
 ALEXANDRIA, VA, 22314
 CLMN Number of Claims: 17
 ECL Exemplary Claim: 1
 DRWN No Drawings
 LN.CNT 1476
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB An organic electroluminescence device having a layer of an organic light
 emitting medium which comprises (A) a specific arylamine compound and
 (B) at least one compound selected from specific anthracene derivatives,
 spirofluorene derivatives, compounds having condensed rings and metal
 complex compounds and is disposed between a pair of electrodes and an
 organic light emitting medium comprising the above components (A) and
 (B) are provided. The organic electroluminescence device exhibits a high
 purity of color, has excellent heat resistance and a long life and
 efficiently emits bluish to yellowish light. The organic light emitting
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 device.

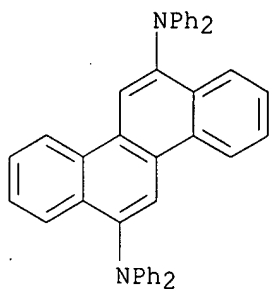
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 279672-22-9 668020-07-3 668020-88-0

(organic electroluminescent devices and organic luminescent medium)

RN 279672-22-9 USPATFULL

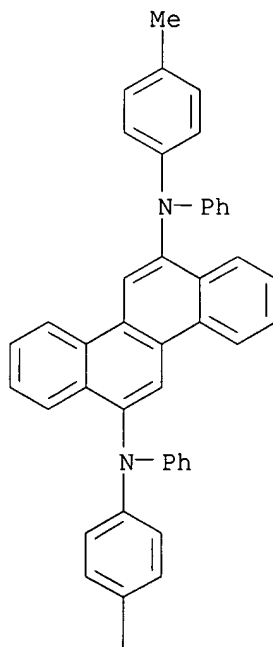
CN 6,12-Chrysenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 668020-07-3 USPATFULL

CN 6,12-Chrysenediamine, N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

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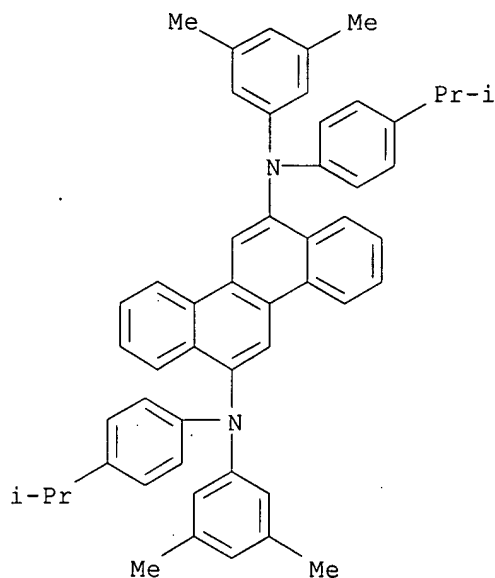


PAGE 2-A



RN 668020-88-0 USPATFULL

CN 6,12-Chrysenediamine, N,N'-bis(3,5-dimethylphenyl)-N,N'-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



L18 ANSWER 5 OF 7 USPATFULL on STN
 AN 2005:44562 USPATFULL
 TI Organic electrolumescence device
 IN Hosokawa, Chishio, Chiba-ken, JAPAN
 Funahashi, Masakazu, Chiba-ken, JAPAN
 Kawamura, Hisayuki, Chiba-ken, JAPAN
 Arai, Hiromasa, Chiba-ken, JAPAN
 Koga, Hidetoshi, Chiba-ken, JAPAN
 Ikeda, Hidetsugu, Chiba-ken, JAPAN
 PA Idemitsu Kosan Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)
 PI US 2005038296 A1 20050217
 AI US 2004-814121 A1 20040401 (10)
 RLI Division of Ser. No. US 2000-623057, filed on 25 Aug 2000, GRANTED, Pat.
 No. US 6743948 A 371 of International Ser. No. WO 1999-JP7390, filed on
 28 Dec 1999, UNKNOWN
 PRAI JP 1998-373921 19981228 <--
 JP 1999-140103 19990520 <--
 JP 1999-223056 19990805 <--
 JP 1999-234652 19990820 <--
 JP 1999-347848 19991207 <--
 DT Utility
 FS APPLICATION
 LREP OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET,
 ALEXANDRIA, VA, 22314
 CLMN Number of Claims: 10
 ECL Exemplary Claim: CLM-01-23
 DRWN 3 Drawing Page(s)
 LN.CNT 3123
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB Materials for organic electroluminescence devices are represented by
 following general formula [1]:

general formula [1] ##STR1##

wherein A represents a chrysene group X^{sup.1} to X^{sup.4} each
 independently represent a substituted or unsubstituted arylene group
 having 6 to 30 carbon atoms, X^{sup.1} and X^{sup.2} may be bonded to each

other, X.³ and X.⁴ may be bonded to each other, Y.¹ to Y.⁴ each independently represent an organic group represented by general formula [2], a to d each represent an integer of 0 to 2 and, a+b+c+d≥0;

general formula [2] being:

general formula [2] ##STR2##

wherein R.¹ to R.⁴ each independently represent hydrogen atom, a substituted or unsubstituted alkyl group having 1 to 20 carbon atoms, a substituted or unsubstituted aryl group having 6 to 20 carbon atoms, cyano group or form a triple bond by a linkage of R.¹ and R.² or R.³ and R.⁴, Z represents a substituted or unsubstituted aryl group having 6 to 20 carbon atoms and n represents 0 or 1.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 279672-21-8 279672-22-9 279672-24-1

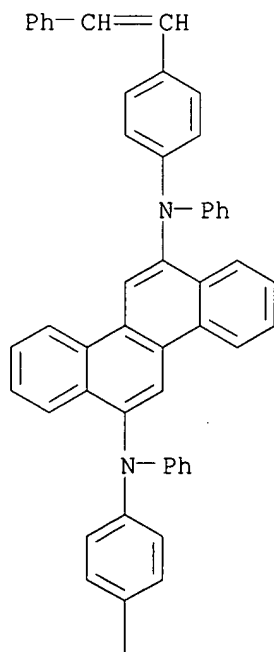
279672-25-2 279672-27-4 279672-37-6

(organic electroluminescent devices)

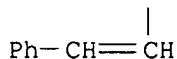
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CN 6,12-Chrysenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]-
(9CI) (CA INDEX NAME)

PAGE 1-A

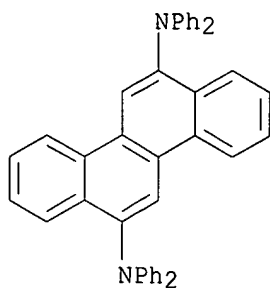


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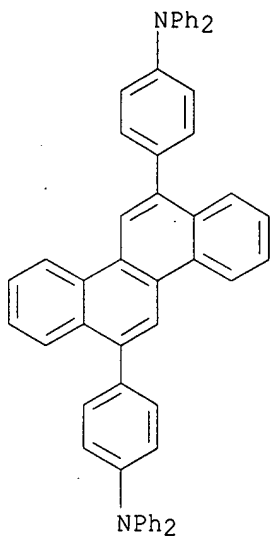
RN 279672-22-9 USPATFULL

CN 6,12-Chrysenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 279672-24-1 USPATFULL

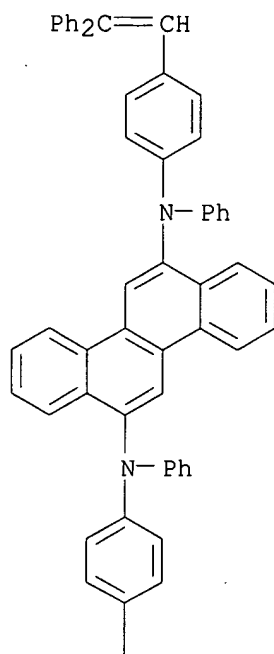
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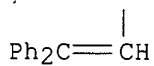
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PAGE 1-A

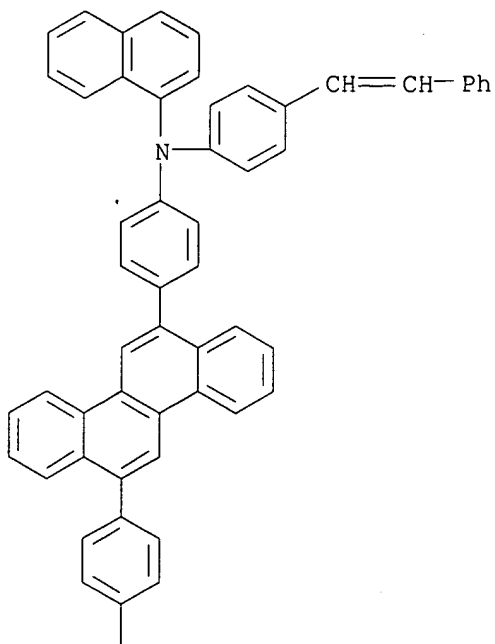


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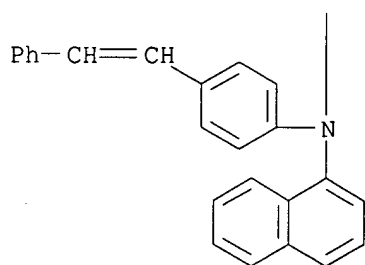


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 CN 1-Naphthalenamine, N,N'-(6,12-chrysenediyl-di-4,1-phenylene)bis[N-(4-(2-phenylethenyl)phenyl)- (9CI) (CA INDEX NAME)]

PAGE 1-A

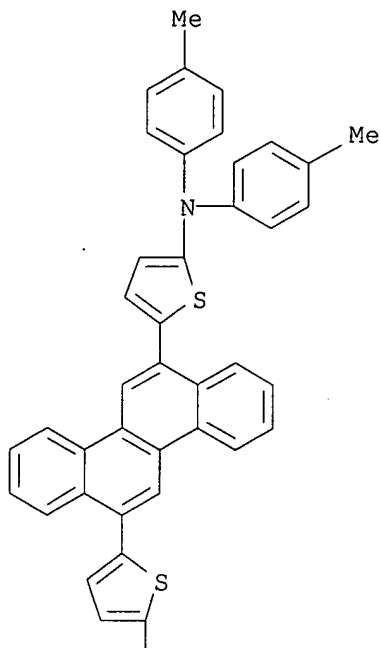


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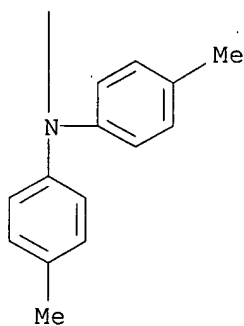


RN 279672-37-6 USPATFULL
 CN 2-Thiophenamine, 5,5'-(6,12-chrysenediyl)bis[N,N-bis(4-methylphenyl)-
 (9CI) (CA INDEX NAME)

PAGE 1-A



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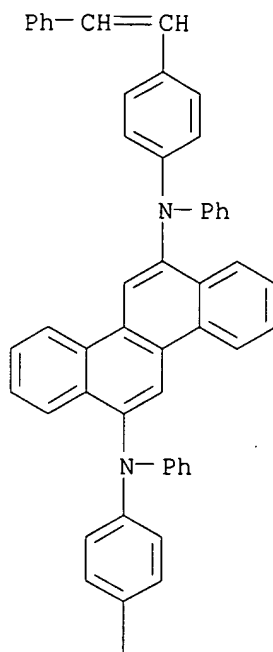
L18 ANSWER 6 OF 7 USPATFULL on STN
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 Kawamura, Hisayuki, Chiba-ken, JAPAN
 Arai, Hiromasa, Chiba-ken, JAPAN
 Koga, Hidetoshi, Chiba-ken, JAPAN
 Ikeda, Hidetsugu, Chiba-ken, JAPAN
 PA Idemitsu Kosan Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)
 PI US 6743948 B1 20040601
 WO 2000039247 20000706 <--
 AI US 2000-623057 20000825 (9) <--

WO 1999-JP7390 19991228 <--
PRAI JP 1998-373921 19981228 <--
JP 1999-140103 19990520 <--
JP 1999-223056 19990805 <--
JP 1999-234652 19990820 <--
JP 1999-347848 19991207 <--
DT Utility
FS GRANTED
EXNAM Primary Examiner: Yamnitzky, Marie
LREP Oblon, Spivak, McClelland, Maier & Neustadt, P.C.
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 3006
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Materials for organic electroluminescence devices are represented by
following general formula [1]: ##STR1##

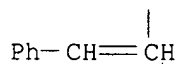
wherein B represents a substituted or unsubstituted arylene group
having 6 to 60 carbon atoms, X.sup.1 to X.sup.4 each independently
represent a substituted or unsubstituted arylene group having 6 to 30
carbon atoms, X.sup.1 and X.sup.2 may be bonded to each other, X.sup.3
and X.sup.4 may be bonded to each other, Y.sup.1 to Y.sup.4 each
independently represent an organic group represented by general formula
[2], a to d each represent an integer of 0 to 2 and, when the arylene
group represented by B has 26 or less carbon atoms, a+b+c+d>0 and at
least one of the groups represented by B, X.sup.1, X.sup.2, X.sup.3 and
X.sup.4 has a chrysene nucleus; general formula [2] being: ##STR2##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT 279672-21-8 279672-22-9 279672-24-1
279672-25-2 279672-27-4 279672-37-6
(organic electroluminescent devices)
RN 279672-21-8 USPATFULL
CN 6,12-Chrysenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]-
(9CI) (CA INDEX NAME)

PAGE 1-A

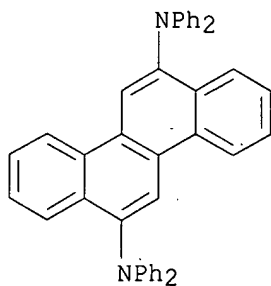


PAGE 2-A



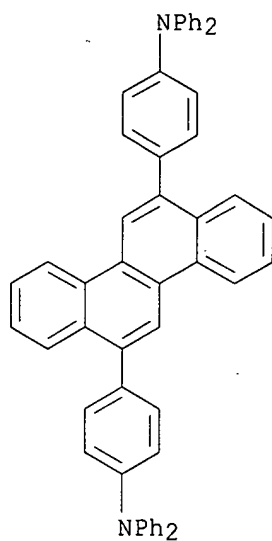
RN 279672-22-9 USPATFULL

CN 6,12-Chrysenediamine, N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 279672-24-1 USPATFULL

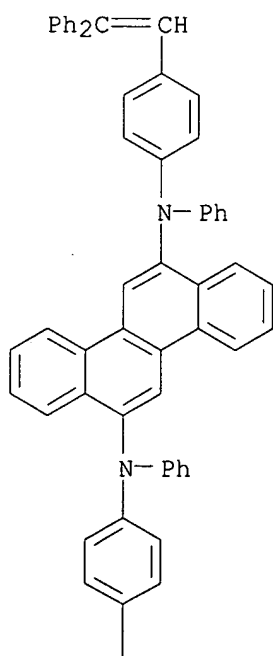
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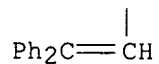
RN 279672-25-2 USPATFULL

CN 6,12-Chrysenediamine, N,N'-bis[4-(2,2-diphenylethenyl)phenyl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

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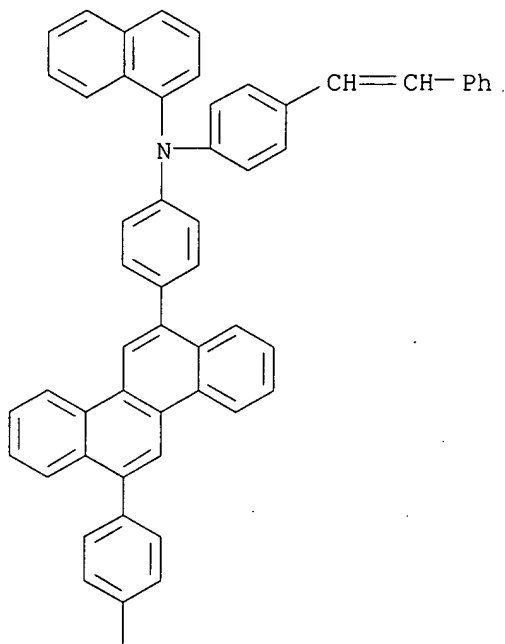
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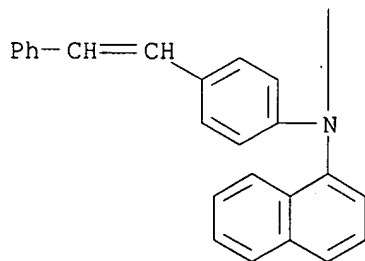
RN 279672-27-4 USPATFULL

CN 1-Naphthalenamine, N,N'-(6,12-chrysenediyl)-4,1-phenylene)bis[N-[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

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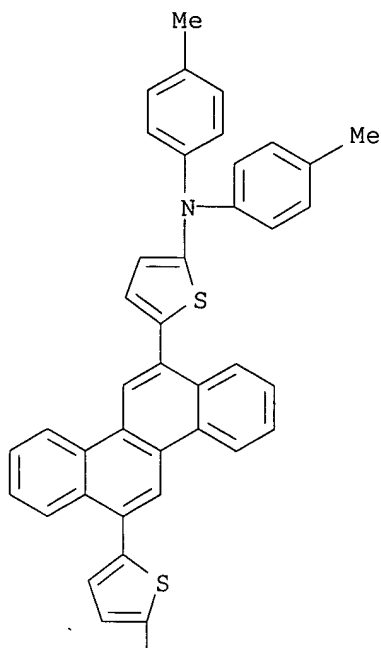
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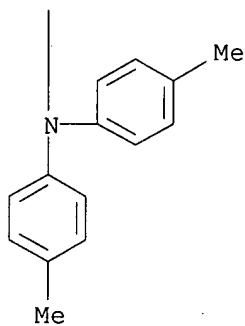
RN 279672-37-6 USPATFULL

CN 2-Thiophenamine, 5,5'-(6,12-chrysenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L18 ANSWER 7 OF 7 USPATFULL on STN
 AN 2003:106055 USPATFULL
 TI Organic electrolumescence device
 IN Hosokawa, Chishio, Chiba-ken, JAPAN
 Funahashi, Masakazu, Chiba-ken, JAPAN
 Kawamura, Hisayuki, Chiba-ken, JAPAN
 Arai, Hiromasa, Chiba-ken, JAPAN
 Koga, Hidetoshi, Chiba-ken, JAPAN
 Ikeda, Hidetsugu, Chiba-ken, JAPAN
 PA Idemitsu Kosan Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)
 PI US 2003072966 A1 20030417 <--
 US 6951693 B2 20051004
 AI US 2002-179179 A1 20020626 (10) <--

RLI Division of Ser. No. US 2000-623057, filed on 25 Aug 2000, PENDING A 371
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PRAI	JP 1998-373921	19981228	<--
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	JP 1999-223056	19990805	<--
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DT Utility
FS APPLICATION
LREP OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755
JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 3 Drawing Page(s)
LN.CNT 3316

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Materials for organic electroluminescence devices and organic electroluminescence devices which exhibit high efficiency of light emission and have a long life and excellent heat resistance, novel compounds and processes for producing the materials for organic electroluminescence devices are provided.

The material for organic electroluminescence devices is represented by following general formula [1]:

general formula [1] ##STR1##

wherein A represents a substituted or unsubstituted arylene group having 22 to 60 carbon atoms, X^{sup.1} to X^{sup.4} each independently represent a substituted or unsubstituted arylene group having 6 to 30 carbon atoms, X^{sup.1} and X^{sup.2} may be bonded to each other, X^{sup.3} and X^{sup.4} may be bonded to each other, Y^{sup.1} to Y^{sup.4} each independently represent an organic group represented by general formula [2], a to d each represent an integer of 0 to 2 and, when the arylene group represented by A has 26 or less carbon atoms, a+b+c+d>0 and the arylene group does not contain two or more anthracene nucleus; general formula [2] being:

general formula [2] ##STR2##

wherein R^{sup.1} to R^{sup.4} each independently represent hydrogen atom, a substituted or unsubstituted alkyl group having 1 to 20 carbon atoms, a substituted or unsubstituted aryl group having 6 to 20 carbon atoms, cyano group or form a triple bond by a linkage of R^{sup.1} and R^{sup.2} or R^{sup.3} and R^{sup.4}, Z represents a substituted or unsubstituted aryl group having 6 to 20 carbon atoms and n represents 0 or 1.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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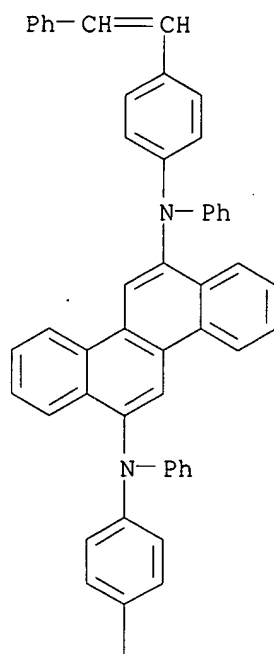
279672-25-2 279672-27-4 279672-37-6

(organic electroluminescent devices)

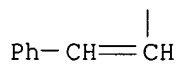
RN 279672-21-8 USPATFULL

CN 6,12-Chrysenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]-
(9CI) (CA INDEX NAME)

PAGE 1-A

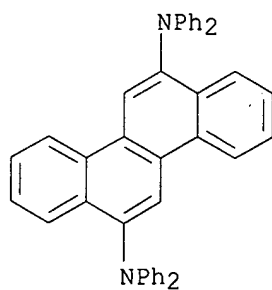


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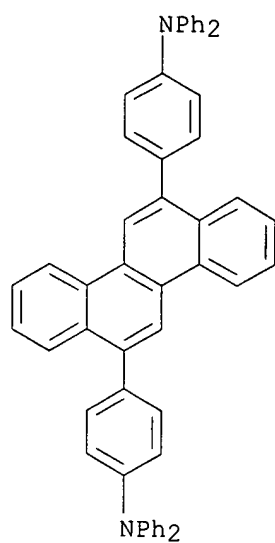
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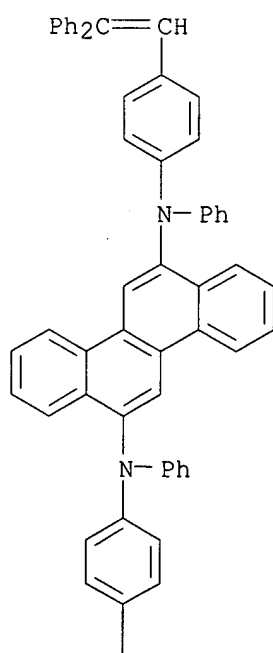
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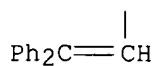


RN 279672-25-2 USPATFULL
CN 6,12-Chrysenediamine, N,N'-bis[4-(2,2-diphenylethenyl)phenyl]-N,N'-
diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



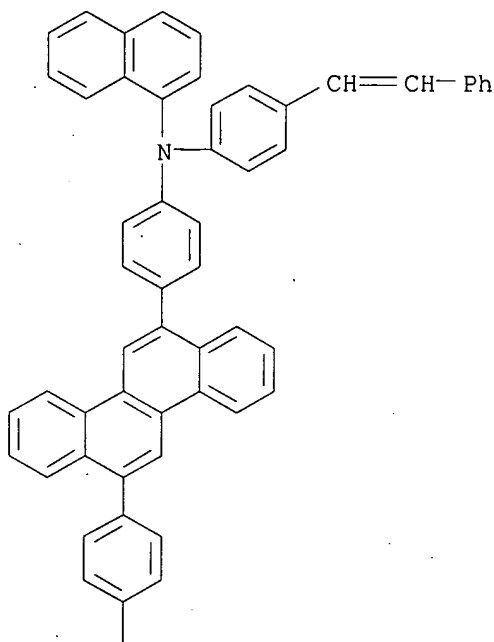
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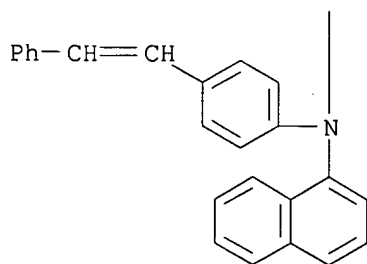
RN 279672-27-4 USPATFULL

CN 1-Naphthalenamine, N,N'-(6,12-chrysenediyl)-4,1-phenylene)bis[N-[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

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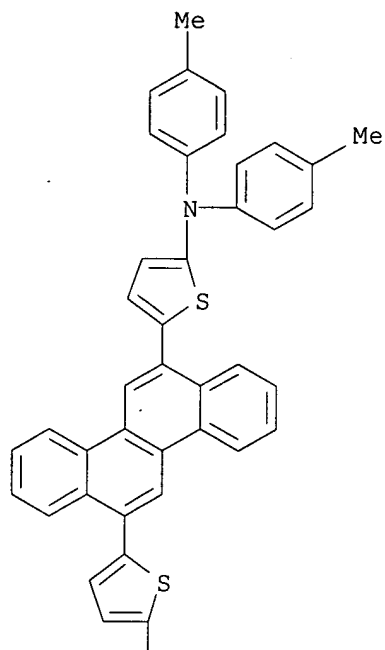
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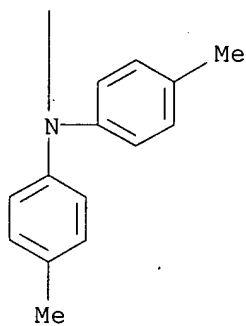
RN 279672-37-6 USPATFULL

CN 2-Thiophenamine, 5,5'-(6,12-chrysenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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PAGE 2-A



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L2 66 S E73,E80
E MASAKAZU/AU
L3 2 S E3
E IDEMITSU/PA,CS

jan delaval - 29 november 2006

L4 6396 S (IDEMITSU?(L)KOSAN?)/PA,CS
SEL RN L1

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